

The Background of the So-called ‘Extended Tiberian’ Vocalization of Hebrew

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The vocalization of modern printed Bibles is a tradition that has its origins in the standard Tiberian system of vocalization. This was developed by the Masoretes of Tiberias, whose school was active in the early Islamic period down to the 10th century. This system of vocalization is found in extant early manuscript codices of the Bible that were produced by the Tiberian Masoretic school, the best known being the Aleppo Codex, and it reflects the Tiberian biblical reading tradition. The standard Tiberian vocalization continued to be transmitted in manuscripts produced in later centuries after the cessation of the Tiberian Masoretic school. These include the so-called Codex Leningradensis (St. Petersburg National Library of Russia I Firkovitch B19a), which was copied in the 11th century and forms the basis of modern academic editions such as BHS and BHQ. There is remarkable uniformity in the standard Tiberian vocalization across the medieval manuscripts, with only a few minor variations, some of which can be correlated with known differences between Masoretes during the Masoretic period.¹

Among the Hebrew Bible manuscripts that have come down to us from the Middle Ages can be found also those that have a non-standard type of Tiberian vocalization. These manuscripts use the Tiberian vocalization signs, but exhibit numerous deviations from the system of the standard Tiberian tradition. These deviations are found in the distribution of the vowel signs and the *shewa* and in the use of the *dageš* and *rafeh* signs. In this paper I should like to focus on the non-standard use of *dageš* in such manuscripts and offer an explanation as to how it developed.

In many extant manuscripts with non-standard Tiberian vocalization the use of the *dageš* sign has been extended to a greater range of contexts than is found in the standard Tiberian system. This distinctive feature of such manuscripts, and also the extended use of the *ḥaṭef qameš* sign, led Yeivin to term their vocalization ‘extended Tiberian’.² Other scholars have proposed terms that relate to distinctive

¹ For the Tiberian Masoretic tradition see Israel Yeivin, *Introduction to the Tiberian Masorah*, Masoretic Studies (Missoula, 1980) and Geoffrey Khan, *A Short Introduction to the Tiberian Masoretic Bible and Its Reading Tradition*, 2nd ed. (Piscataway, 2013).

² Israel Yeivin ‘משמעות סימן הדגש בניקוד הטברני המורחב’, in *Hebrew Language Studies Presented to Professor Zeev Ben-Hayyim*, ed. Moshe Bar-Asher et al. (Jerusalem, 1983), 293–307 (in Hebrew).

features in the use of the vowel signs of these manuscripts. One widely used term of this type is ‘Palestino-Tiberian’. This refers to parallels that exist between the distribution of the Tiberian vowel signs in the manuscripts with that of the vowel signs of manuscripts with Palestinian vocalization, in particular the interchange of *qameš* and *pataḥ*, on the one hand, and *šere* and *seghol*, on the other. In this paper I shall use Yeivin’s term extended Tiberian.

The extended Tiberian type of vocalization has been found in biblical manuscripts written in medieval Europe, in both Ashkenaz and Italy.³ The best known European biblical manuscript of this type is Codex Reuchlinianus, written in Karlsruhe in 1105 CE.⁴ A range of manuscripts with non-standard Tiberian vocalization and extended use of the *dageš* that were written in the Middle East were discovered in the Cairo Genizah by Kahle, who published descriptions of some them.⁵ Descriptions of other Genizah fragments were subsequently made by other scholars, in particular Díez Macho⁶ and Revell⁷. Further work has recently been carried out by Samuel Blapp on the Bible fragments with non-standard Tiberian vocalization from the Genizah for his Ph.D. thesis at the University of Cambridge.⁸

³ See Alexander Sperber, *The Pre-Masoretic Bible*, Corpus Codicum Hebraicorum Medii Aevi 2 (Copenhagen, Munksgaard, 1956-1959). Additional manuscripts of this type from Italy are described by Chiara Pilocane, *Frammenti dei più antichi manoscritti biblici italiani (secc. XI-XII): analisi e edizione facsimile* (Firenze, 2004).

⁴ Cod. Reuchlin 3 of the Badische Landesbibliothek in Karlsruhe; cf. Sperber *The Pre-Masoretic Bible*, 1959., Shelomo Morag, ‘The Vocalization of Codex Reuchlinianus: Is the Pre-Masoretic Bible Pre-Masoretic?’, *Journal of Semitic Studies* 4 (1959): 216–37. This type of vocalization is also found in liturgical manuscripts from medieval Ashkenaz Ilan Eldar, *The Hebrew Language Tradition in Medieval Ashkenaz (ca.940-1350 C.E.)*, Publications of the Hebrew University Language Traditions Project 4-5 (Jerusalem, 1978) and some manuscripts of the Mishnah, see Shai Heijmans, ‘Vocalization, Palestino-Tiberian’, in *Encyclopedia of Hebrew Language and Linguistics*, ed. Geoffrey Khan et al. (Leiden-Boston, 2013), vol. 3, 967-971.

⁵ Paul Kahle, *Masoreten Des Westens*, Texte Und Untersuchungen Zur Vormasoretischen Grammatik Des Hebräischen (Stuttgart, 1927), vol. 2.

⁶ Alejandro Díez-Macho, ‘Un Manuscrito Hebreo Protomasoretico y Nueva Teoria Acerca de Los Llamados MSS. Ben-Naftali’, *Estudios Biblicos* 15 (1956): 187–213; ‘A New List of So-Called “Ben Naftali” Manuscripts’, in *Hebrew and Semitic Studies. Presented to Godfrey Rolles Driver in Celebration of His Seventieth Birthday*, ed. D. Winton Thomas and William D. McHardy (Oxford, 1963), 16–52; *Manuscritos hebreos y arameos de la Biblia: Contribución al estudio de las diversas tradiciones del tecto del Antiguo Testamento* (Rome, 1971).

⁷ E. John Revell, ‘A New Subsystem of Tiberio-Palestinian Pointing’, in *Proceedings of the Fifth World Congress of Jewish Studies*, vol. 4 (Jerusalem, 1969), 91–107.

⁸ Samuel Blapp, ‘The Non-Standard Tiberian Hebrew Language Tradition according to Bible Manuscripts from the Cairo Genizah’ (Ph.D. thesis, University of Cambridge, 2017).

The wide distribution of the non-standard type of Tiberian vocalization in many medieval manuscripts written in Europe led Kahle to believe that it must have been associated with a major stream of Masoretic tradition that is traceable in the Masoretic sources. A common feature of the manuscripts is the vocalization with *hireq* before *yod* in contexts such as לִישָׁרָאֵל where standard Tiberian generally has *shewa* followed by *yod* with *hireq* (לִישָׁרָאֵל). This is recorded in Masoretic lists and treatises as a distinctive practice of Ben Naftali.⁹ Kahle, therefore, held that this vocalization type was associated with the tradition of Ben Naftali.¹⁰ In reality, however, the manuscripts with non-standard Tiberian vocalization contain numerous features that are not attributed to Ben Naftali or Ben Asher in the Masoretic lists, such as the extended use of *dageš* and *rafeh* and also the interchange of *qameš* and *pataḥ*, on the one hand, and *seghol* and *šere*, on the other. The attribution of the system to the Ben Naftali school was subsequently followed by Prijs.¹¹ Díez Macho¹² maintained that the vocalization had its roots in the Ben Naftali school but had undergone further development and so he terms it ‘Pseudo-Ben Naftali’. Morag¹³ argued against the attribution of the system to the Ben Naftali school and terms it ‘Fuller Palestinian’. Dotan¹⁴ believed that the vocalization was a continuation of the Palestinian vocalization.

There is a considerable degree of variation in the use of the *dageš* sign across the various extended Tiberian manuscripts, but there is a clear tendency in many manuscripts for this sign to be used more frequently than in the standard Tiberian vocalization. Concomitantly there is also a wider use of the *rafeh* sign. The distribution of *dageš* and *rafeh* in Codex Reuchlinianus, the best known biblical manuscript with this system of vocalization, has been studied by Morag.¹⁵ He shows that in this manuscript the rules of the marking of *dageš* and *rafeh* on the בגדכפ"ת

⁹ Cf. Misha'el ben 'Uzzi'el, *Kitāb al-Khilaf* ed. Lazar Lipschütz, *Kitāb Al-Khilaf: Mishael Ben Uzziel's Treatise on the Differences between Ben Asher and Ben Naphtali*, Kitvey Mif'al Ha-Miqra Šel 'Universiṭah Ha-İvrit (Jerusalem, 1965), 18..

¹⁰ He was following in this respect the identification by Delitzsch of the non-standard features of the Codex Reuchlinianus with the Ben Naftali tradition; see Seligmann Baer and Franz J. Delitzsch, *Liber Jeremiae* (Leipzig, 1890), ix., and Christian Ginsburg, *Introduction to the Massoretico-Critical Edition of the Hebrew Bible*, Reprint (New York, 1966), 640.

¹¹ Joseph Prijs, ‘Über Ben Naftali-Bibelhandschriften und ihre Paläographische Besonderheiten’, *Zeitschrift Fur Alttestamentliche Wissenschaft* 69 (1957): 171–84.

¹² ‘Un Manuscrito Hebreo Protomasoretico’; ‘A New List of So-Called “Ben Naftali” Manuscripts’.

¹³ ‘The Vocalization of Codex Reuchlinianus’.

¹⁴ Aaron Dotan, ‘The Masorah’, in *Encyclopaedia Judaica*, ed. Michael Berenbaum and Fred Skolnik, (Detroit, 2007), vol. 16, 645.

¹⁵ ‘The Vocalization of Codex Reuchlinianus’.

letters are, in principle, applied to all letters, except the pharyngals (ח, ע), ר, and those that function as both *matres lectionis* and consonants (י, ו, ה, א). The *dageš* sign, therefore, is marked on the majority of letters at the beginning of a word and within a word after a silent *shewa*, e.g. מִסְפָּר ‘number’ (Isa. 10.19, standard Tiberian מספר), מַמְלָכָה ‘kingdom’ (Jer. 18.9, standard Tiberian ממלכה), כִּרְמִי ‘my vineyard’ (Isa. 5:3, standard Tiberian כרמי), נָסִיחַ ‘sick’ (Isa. 10.18, standard Tiberian נסיח). The use of *dageš* and *rafeh* in numerous other manuscripts of this type, both biblical and non-biblical, has been described by Eldar.¹⁶ He shows that many of the manuscripts follow a basic principle of marking of *dageš* similar to that of Codex Reuchlinianus, although there is a considerable amount of diversity in points of detail. The investigation by Blapp¹⁷ of Genizah fragments with extended Tiberian vocalization has revealed a similar basic distribution, although each manuscript exhibits some variant features.

According to Morag¹⁸ the *dageš* sign at the beginning of a word and after silent *shewa* in this system of vocalization did not have a phonetic realization of gemination but only had the function of indicating a syllable boundary. Eldar¹⁹ likewise takes the view that this *dageš* did not have a phonetic realization but rather was a ‘separative *dageš*’.

Yeivin²⁰ agrees with Morag and Eldar that the function of the *dageš* in the extended Tiberian manuscripts was to express the division of syllables. He argues, however, that it was not simply an abstract sign but rather had the phonetic value of a *dageš forte*. This would explain why it is not marked on consonants that do not in principle take *dageš forte*, in particular the pharyngeal consonants.

In the Tiberian masoretic manuscripts that were written during the masoretic period there are a few cases of the marking of the *dageš* sign on letters other than בגדכפ"ת for the purpose of ensuring a clear division of syllables and words. In Codex Leningradensis (I Firkovitch B19a), for example, a *dageš* is sometimes placed on an initial *lamed* of the second word of a phrase connected with *maqef* when the first word ends in *nun*, e.g. וַיִּתֵּן-לּוֹ ‘and he gave him’ (Gen. 24:36)²¹. This can be regarded as a measure to separate the two words clearly and prevent the coalescence of the consonants by a process of assimilation. The *dageš* would mark the articulation of

¹⁶ *The Hebrew Language Tradition in Medieval Ashkenaz (ca. 940-1350 C.E.)*, 125–43.

¹⁷ ‘The Non-Standard Tiberian Hebrew Language Tradition according to Bible Manuscripts from the Cairo Genizah’.

¹⁸ ‘The Vocalization of Codex Reuchlinianus: Is the Pre-Masoretic Bible Pre-Masoretic?’, 226–28.

¹⁹ *The Hebrew Language Tradition in Medieval Ashkenaz (ca. 940-1350 C.E.)*, 125–43.

²⁰ ‘משמעות סימן הדגש בניקוד הטברני המורחב’.

²¹ Yeivin, *Introduction to the Tiberian Masorah*, 294–95.

the *lamed* with increased muscular pressure to ensure it maintains its correct articulation. According to the Masoretic treatise *Kitāb al-Kīlaf* by Miša'el ben 'Uzzi'el, Ben Naftali placed a *dagesh* in the first *nun* of the name נון in the combination בן-נֹן²². This was a measure to prevent the coalescence of two identical letters across a word-boundary. An alternative strategy to separate the two letters is to place a *paseq* between the words, e.g. לְמַעַל | לְהַגְדִּיל 'to make exceedingly great' (1 Chron. 22:5), וּבְרִיָּא | לְרֹב 'iron in abundance' (1 Chron. 22:3).

According to *Kitāb al-Kīlaf*, Ben Naftali marked a *dagesh* in the *qof* of the verb יַעֲקֹב 'he surplants' (Jer. 9.3)²³ and this is found also in a number of Tiberian Masoretic manuscripts.²⁴ This indicated that there was a syllable division before the *qof* and that, therefore, the 'ayin had a silent *shewa*. This alerted the reader to the fact that the syllable division was different from that of the more frequent form יַעֲקֹב 'Jacob'. The practice of the Masorete Ben Naftali to use *dagesh* in this way reflects his general tendency to introduce innovative measures to ensure a careful reading to a greater extent than Ben Asher, who was more conservative. Another innovative feature of the reading of Ben Naftali, for example, is that it exhibits a slightly greater tendency than Ben Asher to separate small words connected by a *maqgef* by reading the first word with an accent.²⁵

The phenomenon of marking *dagesh* to give prominence to syllable division has a natural phonological explanation. The optimal contact between two adjacent syllables is where the onset of the second syllable is stronger than the offset (coda) of the preceding syllable.²⁶ According to this principle, strength is equated with degree of sonority or the quality of being vowel-like. This optimality principle can influence how a sequence of phonological segments is syllabified.²⁷ In a sequence of two consonant segments CC a syllable division between the two is more preferred if the second consonant is less sonorant, i.e. stronger, than the first. The sonority of a consonant can be decreased by a process of fortition. Gemination is a clear process

²² ed. Lipschütz, *Kitāb Al-Khilaf: Misha'el Ben Uzziel's Treatise on the Differences between Ben Asher and Ben Naphtali*, כד.

²³ ed. *ibid.*, לג.

²⁴ Israel Yeivin, *Aleppo Codex* (Jerusalem, 1968), 51 (in Hebrew).

²⁵ Abba Ben-David, 'על מה נחלקו בן-אשר ובן-נפתלי', *Tarbiz* 26 (1957): 384–409.

²⁶ Theo Vennemann, *Preference Laws for Syllable Structure and the Explanation of Sound Change* (Berlin, 1988), 40.

²⁷ Silje Alvestad and Lutz Edzard (*La-Hšōb but La-Hāzōr?: Sonority, Optimality, and the Hebrew פ"פ Forms*, *Abhandlungen Für Die Kunde Des Morgenlandes*, Bd. 66, Wiesbaden, 2009) have demonstrated how this principle can explain the distribution of the insertion of *ḥateph* vowels in verbs with initial *ḥeth* in Tiberian Hebrew.

of fortition ²⁸, so it follows that gemination of a consonant is a natural way to mark a clearer syllable division. This also indicates that the *dageš* in such forms as יִקָּב (יִקָּב) should indeed be interpreted as having the phonetic realization of gemination and is not purely an abstract symbol of syllable division.

The practice attributed to Ben Naftali of marking *dageš* in a letter after a guttural with silent *shewa* (יִקָּב) and in the second word in phrases such as בְּרִנּוֹן to mark a clear division of syllables occurs in a number of later Bible manuscripts, e.g. וַיֹּאסֶר 'and he harnessed' (Exod. 14:6), יַעֲזֹר 'Jazer' (Num. 32:35), לֶאֱכֹל־לֶחֶם 'to eat bread' (Gen. 31:54), לָהֶם מִיָּגוֹן 'to them from sorrow' (Esther 9:22).²⁹ These can be interpreted as reflecting a tradition of marking syllable divisions that is descended, directly or indirectly, from the practice attributed to Ben Naftali.

Yeivin believes that the use of the *dageš* in the extended Tiberian vocalization system was an extension of the sporadic uses of *dageš* with a separative function in the standard Tiberian manuscripts in structures such as וַיִּתֵּן־לּוֹ 'and he gave him' (Gen. 24:36), יִעֲקֹב 'he surplants' (Jer. 9.3) and בְּרִנּוֹן.

Yeivin's argument that the *dageš* in the extended Tiberian manuscripts should be interpreted as *dageš forte* is fully persuasive. It is not clear, however, why there should be a leap from the isolated uses of separative *dageš forte* in Tiberian manuscripts to the use of *dageš forte* on all letters that can take them with the same distribution of *dageš lene* on בגדכפ"ת consonants.

Also the separative function of the *dageš* in word-initial position when the preceding word ends in a vowel is not clear, e.g. לִידִידִי שִׁירָתִי דוּדִי (Codex Reuchlinianus, Morag 1959, 221) = Tiberian לִידִידִי שִׁירָתִי דוּדִי 'a love song for my beloved' (Isa. 5:1). The natural way to separate a word from a preceding word ending in a vowel is to lengthen the final vowel of the first word. Gemination of the initial consonant of the second word has the opposite effect and expresses rather prosodic bonding. The result of such prosodic bonding is found in *dehiq* structures and structures with the word מָה followed by a *dageš*. In *dehiq* structures *dageš* occurs on the first consonant of a word that has the stress on the first syllable when it is preceded by a word with a conjunctive accent or *maqef* ending in an unstressed open syllable. It occurs mainly where the vowel in the unstressed open syllable is *seghol* or *qameš*, e.g. מִי־אֵלֶּה לָּךְ 'who are these to you?' (Gen. 33.5), עָלֶיךָ פָּרַץ '(you breached) for yourself a breach' (Gen. 38.29).³⁰ The Aramaic Masoretic term *dehiq*

²⁸ Joan L. Bybee, *Language Change* (Cambridge, 2015), 45.

²⁹ Christian D Ginsburg, *Introduction to the Massoretico-Critical Edition of the Hebrew Bible*, Reprint (New York, 1897), 114–36; Samuel David Luzzatto, *Prolegomena to a Grammar of the Hebrew Language*, trans. Aaron D. Rubin (Piscataway, 2005), 169–72.

³⁰ For further details see Yeivin, *Introduction to the Tiberian Masorah*, 290–293..

(דְּחִיק) means ‘compressed.’ In the Masoretic treatise *Hidāyat al-Qārī* it is stated that it had this name because the final vowel of the first word was reduced in length.³¹ The phenomenon can be regarded as a bonding process, traditionally referred to as ‘conjunctive *dageš*’, whereby some of the length-timing of the final vowel of the first word is transferred to the following consonant.³² The fact that it occurs predominantly with the low vowels *seghol* and *qameš* can be correlated with the inherently longer duration of low vowels than that of higher vowels. In the case of the interrogative particle מָה ‘what’ the vocalization appears to reflect a full reduction to a short vowel in such circumstances, since the vowel under the מָה is *pataḥ* rather than *qameš*, e.g., מָה־תִּצְעַק ‘why do you cry?’ (Exod. 14.15). This indicates that at some point in the historical development of the Tiberian pronunciation this cliticized particle must have become completely bonded and the vowel before *dageš* was short.

I shall argue here that the missing link between the sporadic use of separative *dageš* in Tiberian manuscripts and the system of *dageš* found in the extended Tiberian manuscripts was a hitherto unidentified orthoepic phenomenon that developed in the Tiberian reading tradition which I shall term the extended *dageš forte* reading.

The basic principle of orthoepy is to ensure that the distinct elements of the text are given their optimal realization, keeping them maximally distinct and avoiding slurring over them. Some orthoepic measures in the Tiberian reading are late developments that should be dated to the medieval period, but some have greater time depth.³³ The extended *dageš forte* reading is one of the orthoepic measures that developed in the later stages of the Tiberian reading tradition.³⁴ This

³¹ ‘The vowel that follows the accent in וְאֶעֱיֶדָה בָּם ‘that I may call to witness against them’ (Deut. 31.28) is not extended but is considerably compressed’ Ilan Eldar, ‘חוק אורייני וביגד כפת’, *Hebrew Union College Annual* 55 (1984): 7; *The Study of the Art of Correct Reading as Reflected in the Medieval Treatise Hidāyat Al-Qārī* (Jerusalem: Academy of the Hebrew Language (in Hebrew), 1994), 111–14..

³² Yeivin *Introduction to the Tiberian Masorah*, 295–96. regards the *dagesh* of *dehiq* as a device for ensuring the separate of words. This is unlikely since the shortening of the vowel preceding it shows that the two words are more closely bonded than when the *dagesh* does not appear.

³³ Geoffrey Khan, ‘Orthoepy in the Tiberian Reading Tradition of the Hebrew Bible and Its Historical Roots in the Second Temple Period’, to appear in *Vetus Testamentum*, 2017; ‘Learning to Read Biblical Hebrew in the Middle Ages: The Transition from Oral Standard to Written Standard’, to appear in *Festschrift for Philip Alexander*, ed. George J Brooke and Renate Smithuis (Leiden, 2017).

³⁴ For a more detailed treatment of this feature see Geoffrey Khan, ‘Remarks on the Pronunciation of *Dageš* in the Tiberian Reading Tradition of Biblical Hebrew’, to appear in *Semitic, Biblical, and Jewish Studies: Festschrift for Richard C. Steiner*, ed. Mordechai Z. Cohen, Aaron Koller, and Adina Moshavi (Jerusalem and New York, 2017).

involved pronouncing the *dageš lene* of בגדכפ"ח letters at the beginning of syllables as *dageš forte*. Evidence for this can be found in medieval Karaite transcriptions of the Hebrew Bible into Arabic script. The Karaite transcriptions were mostly written in the 10th and 11th centuries and generally reflect the Tiberian reading tradition. The majority of them represent the reading in Arabic orthography and many used also Arabic vocalization signs. They, therefore, give us an insight into the Tiberian reading that is independent of the Hebrew orthography and vocalization sign system.³⁵ In several of these transcriptions the Arabic *šadda* sign (i.e. the sign for gemination in Arabic) is marked both where the Tiberian vocalization has *dageš forte* and also where, according to the normal interpretation, it has *dageš lene*, e.g.

BL Or. 2540

Dageš forte Dagesh forte

نیشحکما [nīṭhakka'mō] (BL Or 2540, fol. 4r, 4 || BHS נִתְחַכְמָה Ex. 1.10 'let us deal wisely').

מדוע [mad'dūa'] (BL Or 2540, fol. 7r, 5 || BHS מָדוּעַ Exod. 2.18 'why?').

Dagesh lene

יִרְבָּא [yir'bbē] (BL Or 2540, fol. 4v, 1 || BHS יִרְבֶּה Ex. 1.12 'He increases').

גַּד [ggōd] (BL Or 2540, fol. 3v, 4 || BHS גָּד Ex. 1.4 'Gad').

דָּאן [ddōn] (BL Or 2540, fol. 3v, 3 || BHS דָּן Ex. 1.4 'Dan').

מִהֵרָאן [mīhar'ttēn] (BL Or 2540, fol. 7r, 5 || BHS מְהֵרָאן Ex. 2.18 'you hurried').

³⁵ Geoffrey Khan, 'Vowel Length and Syllable Structure in the Tiberian Tradition of Biblical Hebrew', *Journal of Semitic Studies* 32 (1987): 23–82; 'The Medieval Karaite Transcriptions of Hebrew in Arabic Script', *Israel Oriental Studies* 12 (1992): 157–76; 'The Orthography of Karaite Hebrew Bible Manuscripts in Arabic Transcription', *Journal of Semitic Studies* 38 (1993): 49–70; 'Transcriptions into Arabic Script: Medieval Karaite Sources', in *Encyclopedia of Hebrew Language and Linguistics*, ed. Geoffrey Khan et al. (Leiden-Boston, 2013), vol. 3, 792–99.

A close reading of a passage in the Masoretic treatise *Hidāyat al-Qāri*³⁶ reveals the same phenomenon:

באב פי מא יגי מן אחרוף עלי תלאתה מנאזל

אעלם אן כמא גא פי אחרוף מא אדא אסתנד עלי גירה כפפה ורפאה כדאך פי אחרוף מא יגי עלי ג
מנאזל פי אלתקל ואלכפה אלמנולה אלא אלתכפף אלב אלדגש אלמעהוד אלג אלדגש אלכביר והו
אלתו

אעלם אן אלתו מן דון סאיר אחרוף קד יגי רפי כק ותאי השער וקד יגי דגש כקול תחת הנחשת תורי זהב
וקד יגי דגש כביר והו תלת תאואת וישימה תלעולם ובתי וגנזיו וגבריאל אלך תלתהון

Chapter concerning letters that occur in three grades

Know that just as there are among the letters those that when they are adjacent to another letter, this latter makes them light with *raphe*, likewise among the letters are those that occur in three grades with regard to heaviness and lightness. The first grade is lightening. The second is the normal *dages*. The third is the major *dages*. This includes the *taw*.

Know that the *taw*, unlike the other letters, may occur *raphe*, as in ותאי השער 'rooms of the gate' (Ezek. 40:10); it may occur with *dages*, as in תחת הנחשת 'instead of bronze' (Isa. 60:17), תורי זהב 'ornaments of gold' (Cant. 1:11); and it may occur with major *dages*. The latter includes three *taws*: וישימה תלעולם 'He made it an eternal heap of ruins' (Josh. 8:28), ואת-בתי וגנזיו 'and its houses and its treasuries' (1 Chron. 28:11), וגבריאל אלך תלתהון 'and these three men' (Dan. 3:23).³⁶

In the passage in question the author states that the letter *taw* has three degrees of 'heaviness'. These three degrees include (i) *taw* with *raphe*, i.e. fricative, (ii) normal *dages* and (iii) major *dages*. The grades (ii) and (iii) do not refer to *dages lene* and *dages forte* respectively, as we normally understand them. Rather 'normal *dages*' includes both what we would normally interpret as *dages lene* and also *dages forte*. 'Major *dages*', i.e. grade (iii), is restricted to a few examples of *taw* where the *dages* is extra-long, e.g. in the word בתי 'houses' (with two accents *azla geres*) (1 Chron. 28:11).

The extended *dages forte* reading arose by giving the *dages* sign its full value in all contexts. The primary motivation for this was most likely an attempt to make a maximally clear distinction between fricative and plosive forms of the בגדכפת

³⁶ MS II Firk. Evr. Arab. I 2390, fols. 18a-18b; cf. Eldar *The Study of the Art of Correct Reading as Reflected in the Medieval Treatise Hidāyat Al-Qāri*, 77–78..

letters. Another effect of strengthening the pronunciation of the *dageš* was to mark a clear separation between syllables. This enhanced accuracy of reading words with consonants בגדכפ"ת was achieved without deviating from the standard Tiberian notation system.

I should like to argue that the distribution of the *dageš* in manuscripts with extended Tiberian vocalization reflects a type of reading that arose by an analogical extension of the extended *dageš forte* reading. The analogical process involved extending the gemination marking syllable onsets from בגדכפ"ת consonants to all consonants in syllable onsets that could be geminated. Since gemination was a potential feature also of a range of other consonants, this distribution of gemination of the בגדכפ"ת consonants in the extended *dageš forte* reading was extended further to include these other consonants. This took place by a process of regularization, e.g.

Extended *dageš forte* reading

תִּשְׁבֵּר *ttiš.bbōr*

תִּשְׁמֹר *ttiš.mōr*

נִשְׁמֹר *niš.mōr*

Extended Tiberian reading

תִּשְׁבֵּר *ttiš.bbōr*

תִּשְׁמֹר *ttiš.mmōr*

נִשְׁמֹר *nniš.mmōr*

Manuscripts with extended Tiberian vocalization were widely distributed in medieval Ashkenaz. Yequti'el ha-Naqadan, who was writing in medieval Ashkenaz in the second half of the 13th century, was aware of the existence of such manuscripts. He and readers in his community, however, thought that the *dageš* was a *dageš lene* and so, understandably, the *dageš* had no phonetic realization in consonants that did not belong to the בגדכפ"ת group. This is expressed in the following passage from his *En ha-Qore*³⁷:

ועתה הבן לך כי אותיות בגדכפ"ת נשמעים בכל מלה בדגש ודיגושם ורפיונם ניכר בלשון ותקוע בפה במוצא הדיבור בין שהוא דגש קל בין שהוא דגש חזק אבל וזל"טמנ"סצקש הדגש הקל לא נשמע בהם ברוב מקומות ... ורוב אנשי ארצנו לא ידעו להשמיע את הדגש הקל הבא בותיות האלה

'Now you should understand that the בגדכפ"ת letters with *dageš* are heard in all words (marked with them). Their being pronounced with *dageš* or *rafe* is known in the language and fixed in the mouth, in the place of articulation, whether it be *dageš forte* or *dageš lene*. But as for the letters וזל"טמנ"סצקש, the *dageš lene* is not heard in them in most places ... most people of our land do not know how to pronounce the *dageš lene* that occurs in these letters.'

³⁷ Rivqa Yarqoni, 'En Ha-Qoré by Yequiel Ha-Kohen' (Ph.D. Thesis, Tel-Aviv University, 1985), 105 (in Hebrew).

Yequiti'el then gives a number of examples of *dageš lene* in the letters *וּזְלִטְמִנְסִצְקֶשׁ* both after guttural letters, e.g. *בְּעֵלָה*, and after non-guttural letters, e.g. *נִבְקָעוּ*.³⁸ Although the tradition of marking this *dageš* continued in medieval Ashkenaz, Yequiti'el's remarks indicate that the reading of the *dageš* as *dageš forte* had largely fallen into oblivion. He qualifies his remarks with the phrase 'in most places ... most people of our land', which may indicate that he was aware of some vestiges of the type of pronunciation that was originally reflected by the extended Tiberian vocalization. Indeed a statement by David Qimḥi, writing in southern France at roughly the same period as Yequiti'el, could be interpreted as indicating that there were still memories of this original pronunciation. In his *Miklol* he states (ed. Lyk, 140b):

כל שו"א נע וסמוך לה אחת מאותיות בג"ד כפ"ת האות ההיא אשר הוא מבג"ד כפ"ת תרפה ...
וכן בשאר האותיות כפי חזקתם וכפי קלותם כמו לָמָה קריאת הלמ"ד חזקה, וּלְמָה קריאת הלמ"ד קלה
מפני שו"א הנע אשר עליה, שָׁאֵל שאל האיש קריאת השי"ן חזקה וְשָׁאֵל לוֹ קריאת השי"ן קלה, נָפְלוּ פניך
קריאת הנו"ן חזקה, וְנָפְלוּ ולא יקומו עוד קריאת הנו"ן קלה וכן שאר האותיות על זו הדרך זולתי היו"ד
שהיא קלה לעולם זולתי אם תדגש

'Whenever mobile *šewa* is followed by one of the letters בגדכפ"ת, the letter from the בגדכפ"ת (letters) is soft ... The same applies to the other letters with regard to their strength and lightness, for example in לָמָה 'why' the reading of the *lamed* is strong and in וּלְמָה 'and why?' the reading of the *lamed* is light because of the mobile *šewa* in it. In שָׁאֵל-הָאִישׁ 'the man questioned us carefully' (Gen. 43.7) the reading of the *šin* is strong; in וְשָׁאֵל לוֹ 'and he shall ask for him' (Num. 27.21) the reading of the *šin* is light. In נָפְלוּ פְנֶיךָ '(why) has your countenance fallen?' (Gen. 4.6) the reading of the *nun* is strong; in וְנָפְלוּ וְלֹא-יִקְוּמוּ עוֹד 'they will fall and not rise again' (Amos 8.14) the reading of the *nun* is light. Likewise the other letters (are read) in this way, except for *yod*, which is always light unless it has *dageš*.'

In this passage Qimḥi refers to strong and weak variants of consonants. He states that this variation is found not only in the בגדכפ"ת consonants, but also in other consonants. The distribution of the variation in the other consonants is the same as is found with the בגדכפ"ת consonants, i.e. the weak variant occurs after a vowel. This appears, therefore, to be an allusion to the type of pronunciation that is reflected by extended Tiberian vocalization, although Qimḥi does not refer to the marking of the *dageš* sign on the strong variant of the consonants outside the בגדכפ"ת group. His remark at the end of the passage that *yod* does not have strong and weak variants in the same way as the other consonants 'unless it has *dageš*' can

³⁸ Yarqoni, 'En Ha-Qoré by Yequitiel Ha-Kohen', 107.

also be correlated with the type of pronunciation reflected by extended Tiberian vocalization. In manuscripts exhibiting this type of vocalization *yod* often lacks *dageš* in word-initial or post-consonant position and takes *dageš* only where this occurs in the standard Tiberian vocalization.³⁹ In this passage, therefore, we may have evidence that features of the extended Tiberian type of pronunciation survived in Ashkenaz and were applied to biblical manuscripts with standard Tiberian vocalization. It should be noted, however, that Qimḥi makes a distinction between *dageš lene* (דגש קל) and *dageš forte* (דגש חזק) in the בגדכפ"ת consonants and does not identify the fortition of the other consonants in word-initial position with the gemination of *dageš forte*.

As alluded to by Yeḳuti'el ha-Naqdan, the type of pronunciation that geminated consonants outside the בגדכפ"ת group after a vowelless consonant or word-initial position was rarely used in medieval Ashkenaz. Yeḳuti'el, in fact, describes a reading tradition in which there was a general tendency to weaken *dageš forte*, especially when the letter had *shewa* ⁴⁰. There is evidence from transcriptions of Hebrew into Latin script in medieval France that letters with *dageš forte*, according to the standard Tiberian vocalization, were not pronounced geminated.⁴¹ The marking of *dageš forte* is, moreover, frequently omitted in medieval Ashkenazi prayerbooks,⁴² and is completely lost in modern Ashkenazi reading traditions.⁴³ This general weakening of gemination in Ashkenaz that had begun already in the Middle Ages would have eliminated the gemination that was distinctive of the extended Tiberian pronunciation tradition.

As has been proposed, the extended type of Tiberian pronunciation was an analogical development of the extended *dageš forte* type of reading, in which *dageš lene* in בגדכפ"ת consonants in the standard Tiberian vocalization system were pronounced as *dageš forte*. Within the extended Tiberian pronunciation, therefore, the *dageš* of the בגדכפ"ת consonants was always pronounced as *dageš forte*. Apart from the possible vestiges of the extended Tiberian type of pronunciation in medieval Ashkenaz described above, there is no other evidence for the survival of either the extended Tiberian or extended *dageš forte* type of readings outside of

³⁹ Cf. the description of the distribution of *dageš* in Codex Reuchlinianus by Morag, 'The Vocalization of Codex Reuchlinianus', 220.

⁴⁰ Yarqoni, 'En Ha-Qoré by Yeḳuti'el Ha-Kohen', 113.

⁴¹ Yehiel Gedalyahu Gumpertz, *Mivṭa'e Šefatenu: Studies in Historical Phonetics of the Hebrew Language* (Jerusalem, 1953), 5; Yarqoni, 'En Ha-Qoré by Yeḳuti'el Ha-Kohen', 108–11.

⁴² Eldar, *The Hebrew Language Tradition in Medieval Ashkenaz (ca. 940-1350 C.E.)*, 115–22.

⁴³ Lewis Glinert, 'Ashkenazi Pronunciation Tradition: Modern', in *Encyclopedia of Hebrew Language and Linguistics*, ed. Geoffrey Khan et al., (Leiden-Boston, 2013), vol. 1, 192.

Palestine. The grammarian Judah Ḥayyūj, writing in Spain at the end of the 10th century, clearly refers to the distinction between *dageš forte* and *dageš lene* in the consonants בגדכפ"ת. In his *Kitāb al-'Aḡāl Dawāt Ḥurūf al-Līn* 'Book of Verbs with Soft Letters' he states as follows ⁴⁴:

اعلم ان بي'ג'ד'כ'פ'ת' يُنطق بها في العبراني على ضربين الضرب الاول هكذا بيت גימל דל כף פא תא فالضرب الثاني בית גימל דל כף פא תא فسمي الضرب الاول ثقيلًا والثاني خفيفًا وانما سمينا الاول ثقيلًا والثاني خفيفًا لان الاول ياتي في الكلم العبرانية ثقيلًا وخفيفًا اما الثقيل فمثل יִשְׁכַּר יְדָבָר ... وهذا الذي يقال له مشدد على الحقيقة فاما الخفيف فمثل בְּרֵאשִׁית בָּרָא אֱלֹהִים ... יִרְבֶּה ... واما الضرب الثاني فلا ياتي في اللغة العبرانية الا خفيفا ابدا فسميت الضرب الاول ثقيلًا بالاضافة الى الثاني لا لانه ثقيل مشدد في كل حال

'Know that ב'ג'ד'כ'פ'ת' are pronounced in Hebrew in two ways. The first type (of pronunciation) is thus: בית גימל דל כף פא תא. The second type is בית גימל דל כף פא תא. The first type is called 'heavy' and the second 'light'. I have called the first 'heavy' and the second 'light' because the first occurs in Hebrew words either heavy or light, examples of 'heavy' being יִשְׁכַּר, יְדָבָר, ... and this is what is called heavy in reality, examples of the 'light' (variant of the 'heavy' way of pronouncing) are בְּרֵאשִׁית, בָּרָא 'in the beginning God created' (Gen. 1:1), יִרְבֶּה 'it increases'. As for the second type, this only occurs 'light' in the Hebrew language. I have called the first type 'heavy' (because it is thus) in comparison with the second, not because it is 'heavy' in all circumstances.'

Here Ḥayyūj uses the term 'light' (*ḥafif*) to refer both to a fricative בגדכפ"ת letter and also to a stop בגדכפ"ת with *dageš lene*.

The reading traditions of the Jewish communities in Arabic-speaking countries have preserved the gemination of *dageš forte* according to the distribution of the familiar system of reading with *dageš forte* and *dageš lene*. There is no trace of an extended *dageš forte* type of reading. Nor is there any trace of an extra-long gemination of *taw*. The plural form בָּתִּים is regularly read with *dageš lene*, e.g. Yemen: bavo:t^he:xām (בְּבַתֵּיכֶם 'in your houses' Isa. 3:14).⁴⁵ This applied even to cases where the word has a secondary accent.

The extended *dageš forte* type of reading and its development in the extended Tiberian reading arose as orthoepic measures to ensure a maximally distinct and accurate reading. Various other orthoepic measures developed in the Tiberian

⁴⁴ *The Weak and Geminative Verbs in Hebrew*, ed. Morris Jastrow (Leiden, 1897), 12–13.

⁴⁵ Shelomo Morag, *The Hebrew Language Tradition of the Yemenite Jews* (Jerusalem: The Academy of the Hebrew Language, 1963), 38; Doron Ya'akov, *The Hebrew Language Tradition of the Jews of Southern Yemen: Phonetics and Mishnaic Hebrew*, Publications of the Hebrew University Language Traditions Project 34 (Jerusalem, 2015), 72 n.134 (in Hebrew).

tradition⁴⁶ and these also did not survive in later reading traditions. One example is the reading of the word *מה* vocalized with *pataḥ* and connected by *maqquph* to the following word, the first letter of which has *dageš*, e.g. *וְמָה יִדְבֹּר* ‘and what did he say’ (Jer. 23.35). It is clear that the *pataḥ* in this particle originally developed due to its prosodic and syllabic bonding with the following word. It continued, however, to be written as an orthographically separate word. In order to ensure that the orthographic distinctness was expressed clearly in pronunciation the *pataḥ* in the word *מה* was lengthened. This orthoepic measure is reflected by Karaite transcriptions of the Tiberian reading into Arabic script, in which the *pataḥ* is represented by an Arabic *mater lectionis* ‘*alif*’, e.g. *مَا تَصْعِقُ* [ma:-ttiṣ‘a:q] (BL Or. 2542, 62r, 7 || BHS *מָה תִּצְעֶק* ‘why do you cry?’ Exod 14:15).⁴⁷ In a similar way, a word-final vowel before the *dageš* in a *deḥiq* construction was not fully shortened to a short vowel in the Tiberian reading tradition, as is reflected by the Karaite transcriptions, e.g.

וְעָשִׂהָ לְךָ Exod. 4.17 ‘you do by it’). [ta:‘asɛ:-‘bbo:] (BL Or 2540, fol. 12r, 5 || L *تَاعِصِنَا بُو*).

זֶה שְׁמִי Exod. 3.15 ‘this is my name’). [zɛ:-šša‘mi:] (BL Or 2540, fol. 9v, 3 || L *زَا-شَمِي*).

אֶסְרֶהָ לְךָ Exod. 3.3 ‘I shall turn aside’). [ʔɛ:su:rɔ:-‘nnɔ:] (BL Or 2540, fol. 8r, 4 || L *اِسْوَرَا نَا*).

This also seems to have been an orthoepic measure of the Tiberian tradition. There is evidence from manuscripts of the Hebrew Bible with Babylonian vocalization that in the Babylonian reading tradition the vowel of *מה* before *dageš* and vowels before a *dageš* in *deḥiq* structures were short. This is shown in several

⁴⁶ For details see Khan ‘Learning to Read Biblical Hebrew in the Middle Ages’; ‘Orthoepy in the Tiberian Reading Tradition of the Hebrew Bible and Its Historical Roots in the Second Temple Period’, *Vetus Testamentum*, 2017. In Exod. 4.2 the *ketiv* *מִזֶּה* has the *qere* *מִזֶּה*, in which the *pataḥ* is also read as long according to the Karaite transcriptions, e.g. *مَارَا* [ma:‘zze:] (BL Or 2540, fol. 10v, 3). The purpose of the *qere* masoretic note is to indicate that the *ketiv* *מִזֶּה* should be read as two separate words, which should be kept prosodically distinct.

⁴⁷ For further details see Geoffrey Khan ‘The Pronunciation of *מה* before *Dageš* in the Medieval Tiberian Hebrew Reading Tradition’, *Journal of Semitic Studies* 34 (1989): 433–41.

manuscripts with the so-called compound Babylonian vocalization. In this system short vowels before *dageš* are marked by a compound sign combining a vowel sign and *shewa*. Such signs are used for the vowels in question, demonstrating that they were pronounced short,⁴⁸ e.g.

מָה זֶאת [ma-zzo:t̪] (BHS מה־זאת Exod 13.14 ‘what does this mean?’)

בְּמִרְעָה טוֹבָה [bmar‘a-t̪to:b] (L בְּמִרְעָה־טוֹבָה Ezek 34.14 ‘in good pasture’)

The grammarian Ḥayyūj, writing in 10th century Spain, describes the shortening of the final vowel of the first word in *dehiq* structures and of the *pataḥ* of מָה before *dageš*. He states in his *Kitāb al-ʿAfāl Dawāt Hurūf al-Līn* that ‘these are all read with *tašdīd* (i.e. *dageš forte*) on account of the assimilation of the long vowels’.⁴⁹ In modern reading traditions the vowel is, likewise, pronounced short before the geminate consonants, e.g. Baghdad⁵⁰: waʿqbeʿre:hašʿsam (וְאֶקְבְּרָהָ שָׁם) ‘and I buried her there’ Gen. 48:7), Aleppo⁵¹: ne:lxašʿsam (נֵלְכָה שָׁם) ‘let us go there’ 1 Sam. 9:6).

In conclusion, the distribution of *dageš* in the extended Tiberian vocalization system reflects the fortition of consonants by gemination as an orthoepic measure. This was an analogical development of the extended *dageš forte* reading. In this latter type of reading the *dageš lene* of the בגדכפ״ת consonants came to be pronounced as *dageš forte*, which was likewise an orthoepic measure. Such orthoepic strategies were unknown or rapidly fell into oblivion outside the medieval Middle East and in later reading traditions.

⁴⁸ Israel Yeivin, *The Hebrew Language Tradition as Reflected in the Babylonian Vocalization* (Jerusalem, 1985), 338 (in Hebrew).

⁴⁹ هذه كله مقروءة بالتشديد لاندغام السواكن (*The Weak and Geminative Verbs in Hebrew*, ed. Jastrow, 11).

⁵⁰ Shelomo Morag, *The Hebrew Language Tradition of the Baghdadi Community*, Publications of the Hebrew University Language Traditions Project 1 (Jerusalem, 1977), 37.

⁵¹ Ktzia Katz, *The Hebrew Language Tradition of the Aleppo Community*, Publications of the Hebrew University Language Traditions Project 7 (Jerusalem, 1981), 30.